

# **Special Costing Issues & Techniques for Chargeback**

# *Topics*

- Review of chargeback philosophy
- Excess capacity
- Peak processing
- Levels of service
- Single versus multiple rates

# Chargeback Philosophy

# ***Chargeback Best Practices Characteristics***

- Equitable.
- Repeatable and Accurate.
- Understandable.
- Controllable or Predictable.
- Economical

# ***Equitable***

- Fair to all customers.
- One customer is not subsidizing the cost of another customer.
- The customer pays for the services they consume or the capacity they request.
- Use activity-based costing methodology.

# ***Repeatable and Accurate***

- It should not matter when (time of day or day of the month) the job or activity is performed.
- The same volume of work should cost the same each month.
- Assuming the same input, it should consume the same resources each time.

# ***Understandable***

- The customer must understand the chargeback process and methodology.
- IT must understand the chargeback process and methodology.
- They both must know what is being charged.
- What is included in the charges.

# ***Controllable or Predictable***

- The customer must have the ability to control or predict the cost of performing a particular activity.
- If the customer processes more transactions, the cost should increase.
- If the customer reduces activities, the cost should decrease.

# ***Economical***

- The system itself must be relatively inexpensive to run, including:
  - Collecting data.
  - Processing.
  - Reporting on the information.
  - Resources required
    - Hardware
    - Software
    - Staff

# Billing for Excess Capacity

# ***Excess Capacity – Definition of Terms***

**Theoretical Capacity - Total usage (100%)**

# *CPU Utilization by Hour*

Monday through Friday -- Averages

%Busy

Theoretical  
Capacity

100

90

80

70

60

50

40

30

20

10

0

1

2

3

4

5

6

7

8

9

10

11

12

13

14

15

16

17

18

19

20

21

22

23

HOURS

# ***Excess Capacity – Definition of Terms***

**Theoretical Capacity - Total usage (100%)**

**Available Capacity - Theoretical less operating system needs, down time, and contingency.**

# *CPU Utilization by Hour*

**%Busy**

**Monday through Friday -- Averages**

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**20**

**10**

**0**

**Theoretical  
Capacity**

**Available  
Capacity**

**1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 HOURS**



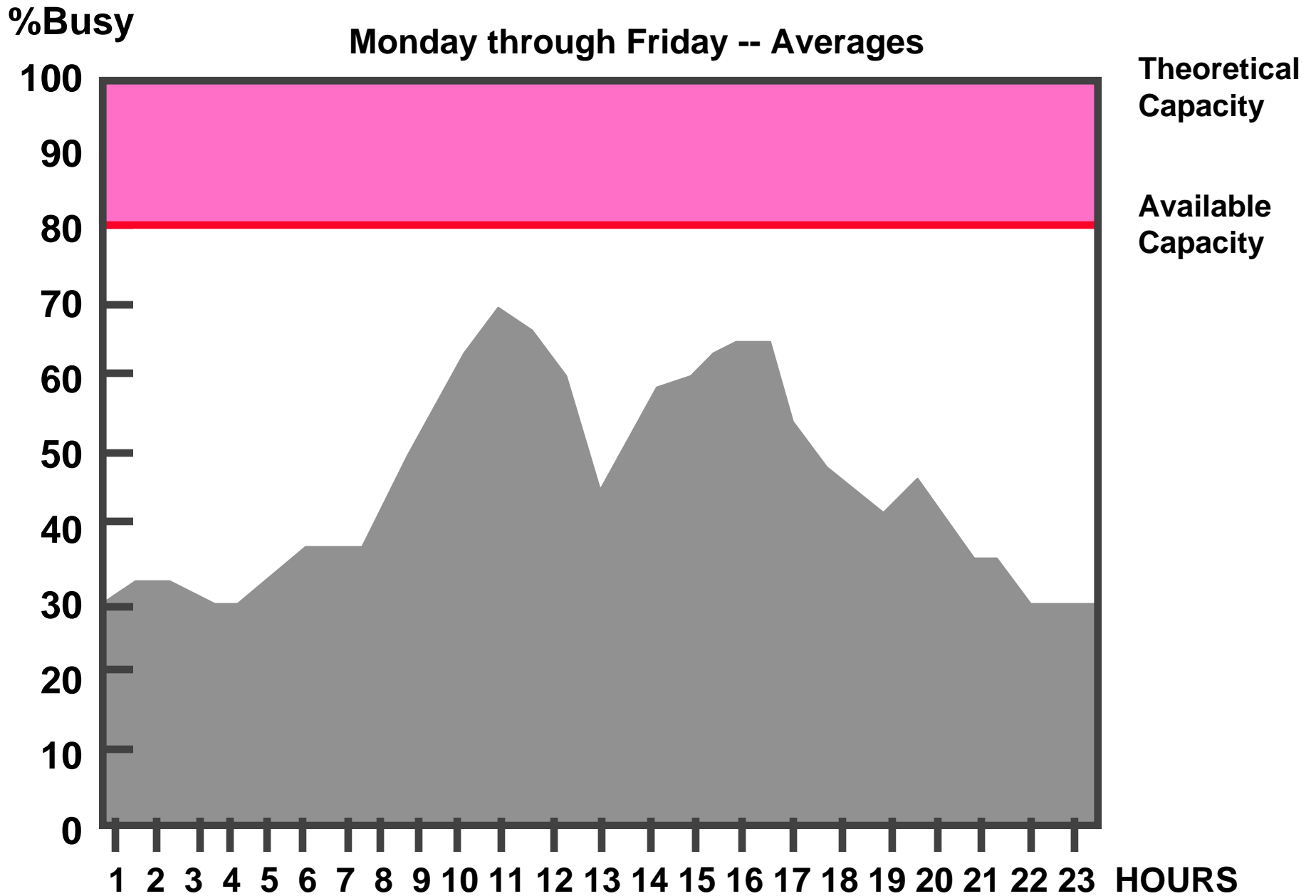
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**Actual Utilization - Capacity of resource required to complete the assignments or jobs.**

# *CPU Utilization by Hour*



# ***Excess Capacity Definition of Terms***

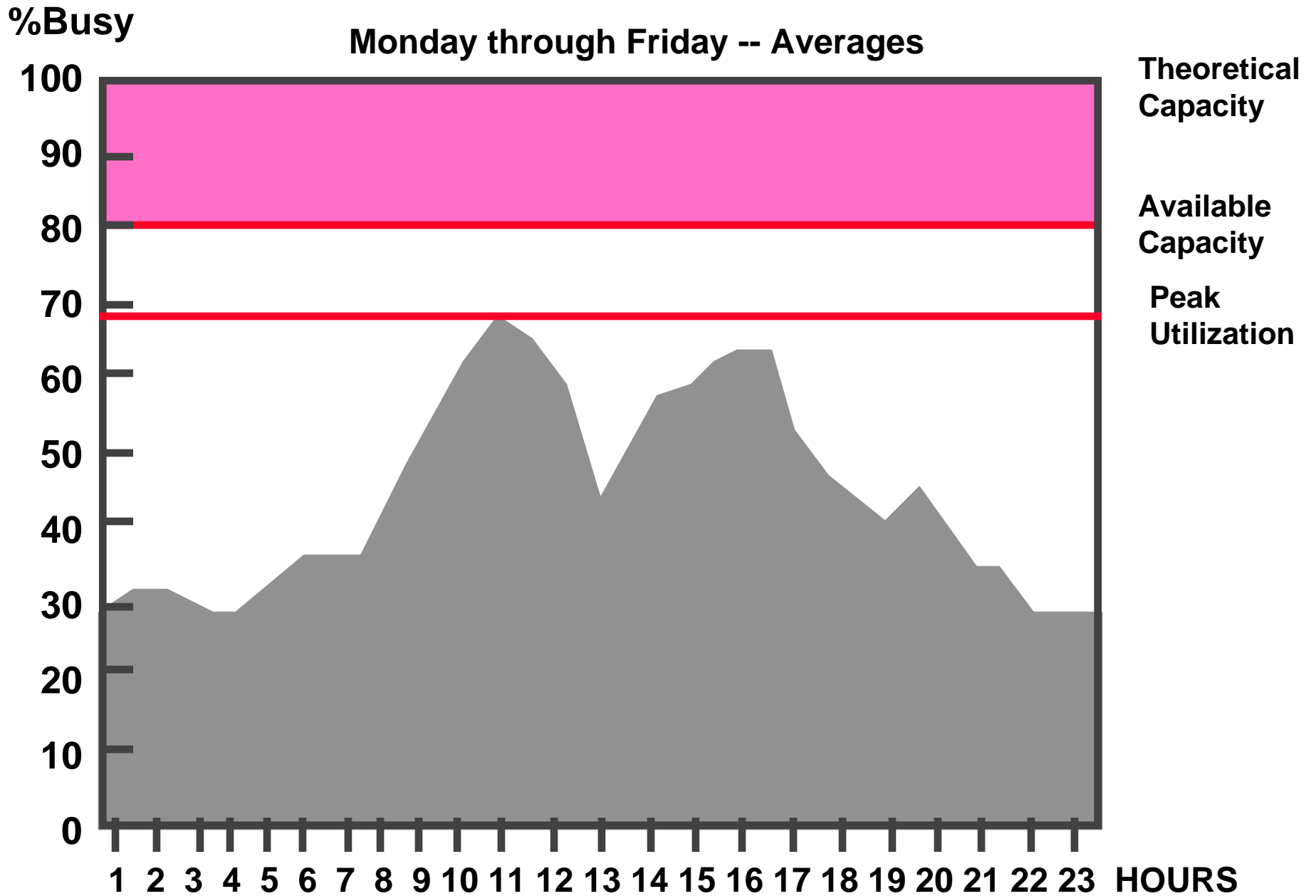
**Theoretical Capacity - Total usage (100%)**

**Available Capacity - Theoretical less operating system needs, down time, and contingency.**

**Actual Utilization - Capacity of resource required to complete the assignments or jobs.**

**Peak Utilization - Capacity of resource required at the busiest time of the day.**

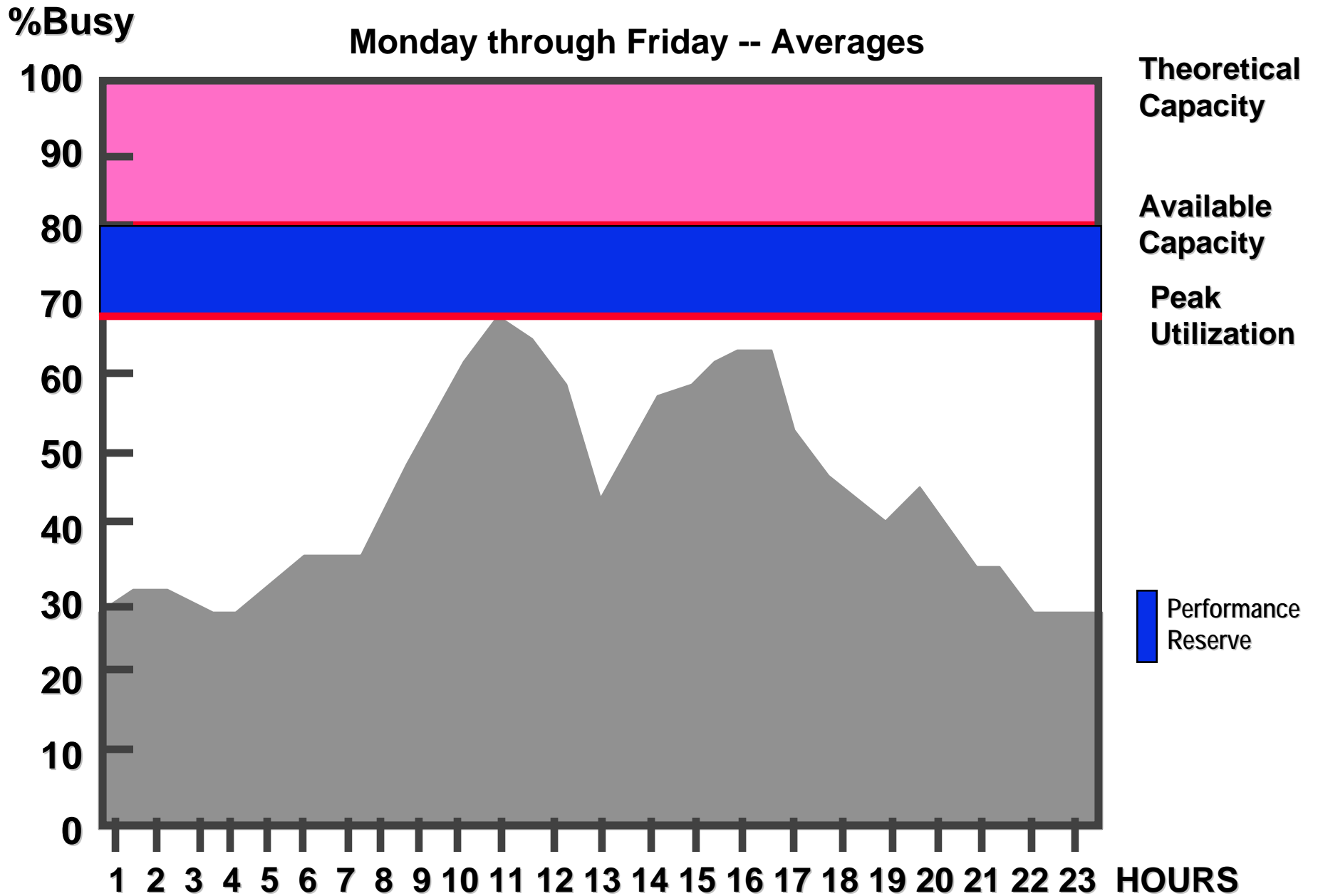
# *CPU Utilization by Hour*



# ***Excess Capacity – Definition of Terms***

**Excess Capacity or Performance Reserve - Capacity of resource between peak utilization and available capacity.**

# CPU Utilization by Hour

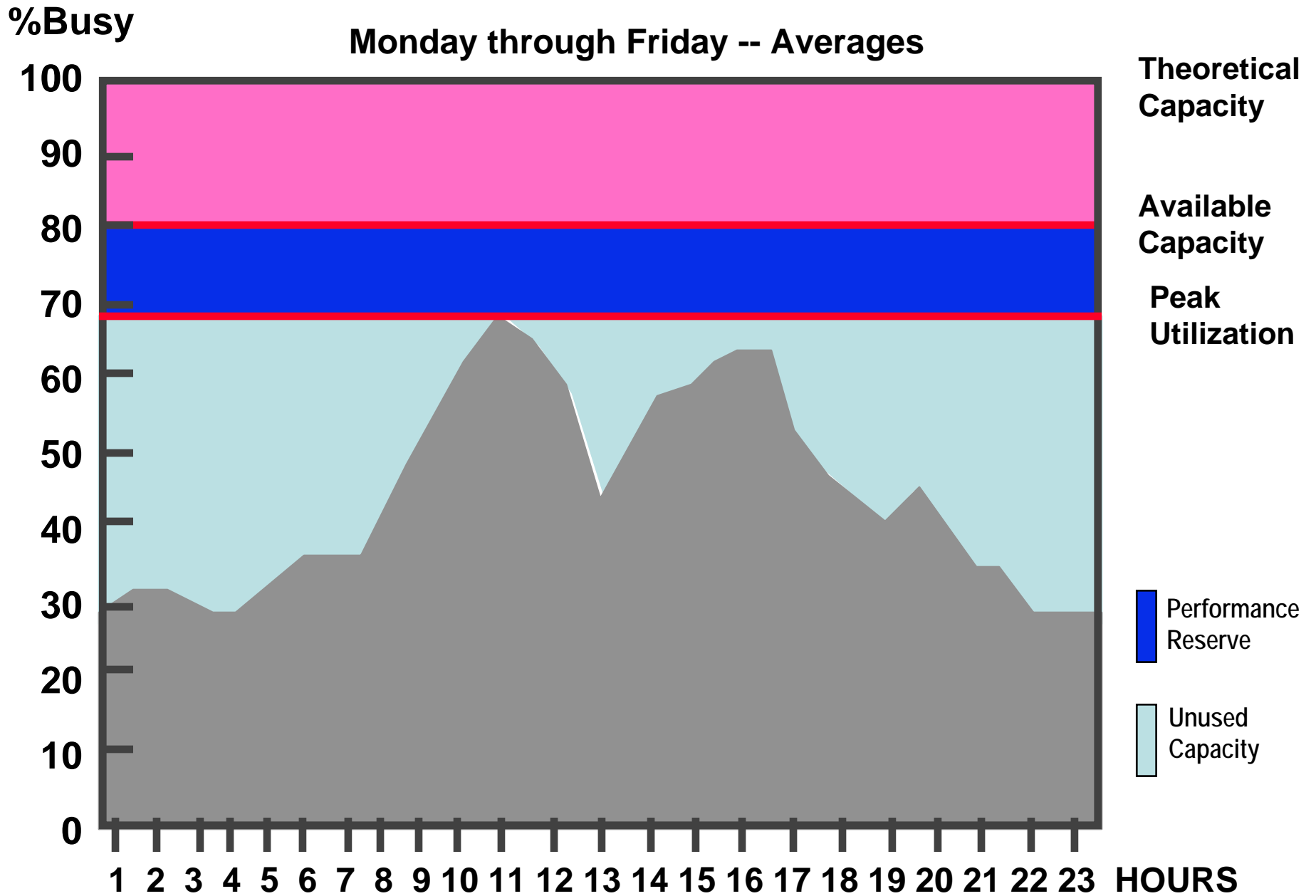


# ***Excess Capacity – Definition of Terms***

**Excess Capacity or Performance Reserve - Capacity of resource between peak utilization and available capacity.**

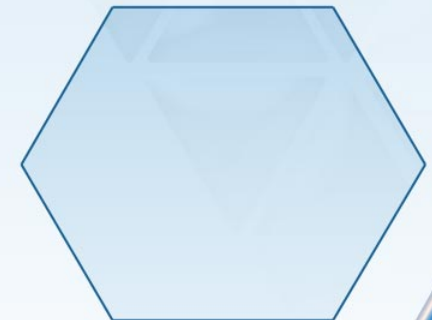
**Unused Capacity - Capacity of the resource between the actual utilization and the peak level.**

# CPU Utilization by Hour



# ***Excess Capacity Can Exist With Any Resource***

- CPU
- Disk
- Printers
- Premises
- People
- Networks

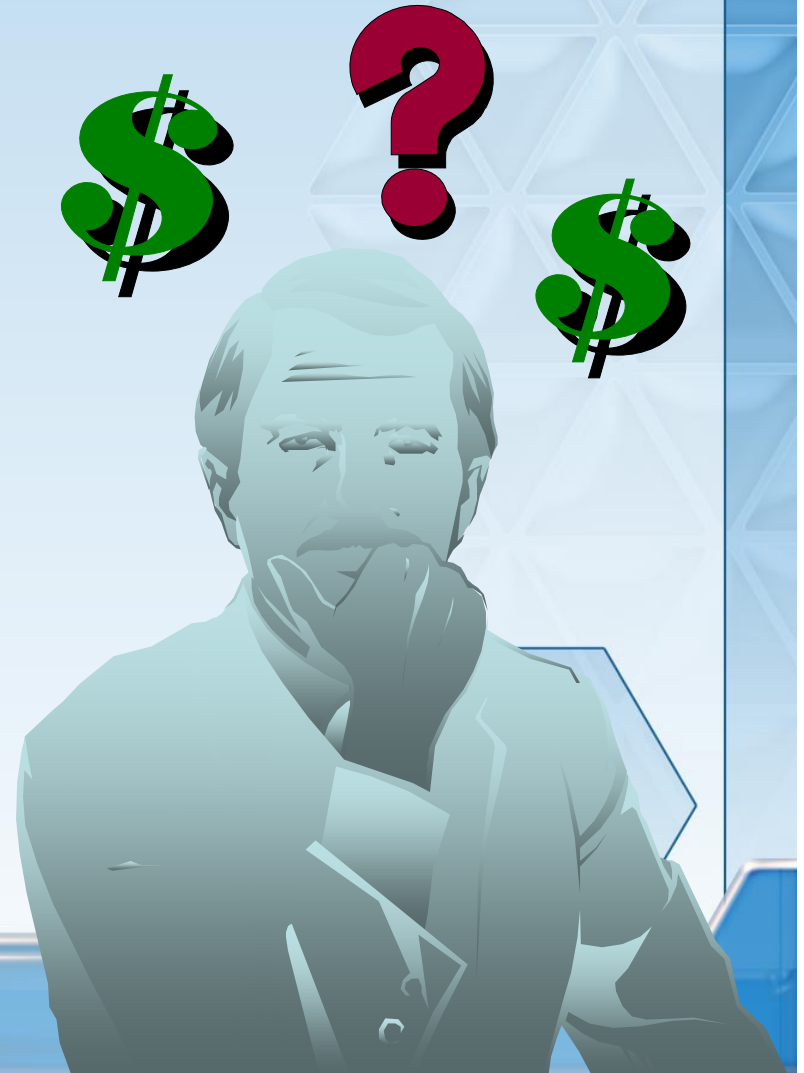


# ***Factors Which Cause Excess Capacity***

- New step in capacity
  - CPU
  - Disk
  - Premises
- Freed up capacity
  - Customer leaves
  - Product abandoned
- Contingency / backup
- Poor planning

# *Excess Capacity - The Issues*

- Who pays for it?
  - Current customers...
  - Future customers...
  - IT overhead...
  - General overhead...



# ***Excess Capacity - The Issues***

- How is it charged to customers?
  - Generally higher rates...
  - Separate charge...
- How is rate stability maintained?
- Is excess capacity a measure of inefficiency?



# *A Sample Calculation of Excess Capacity*

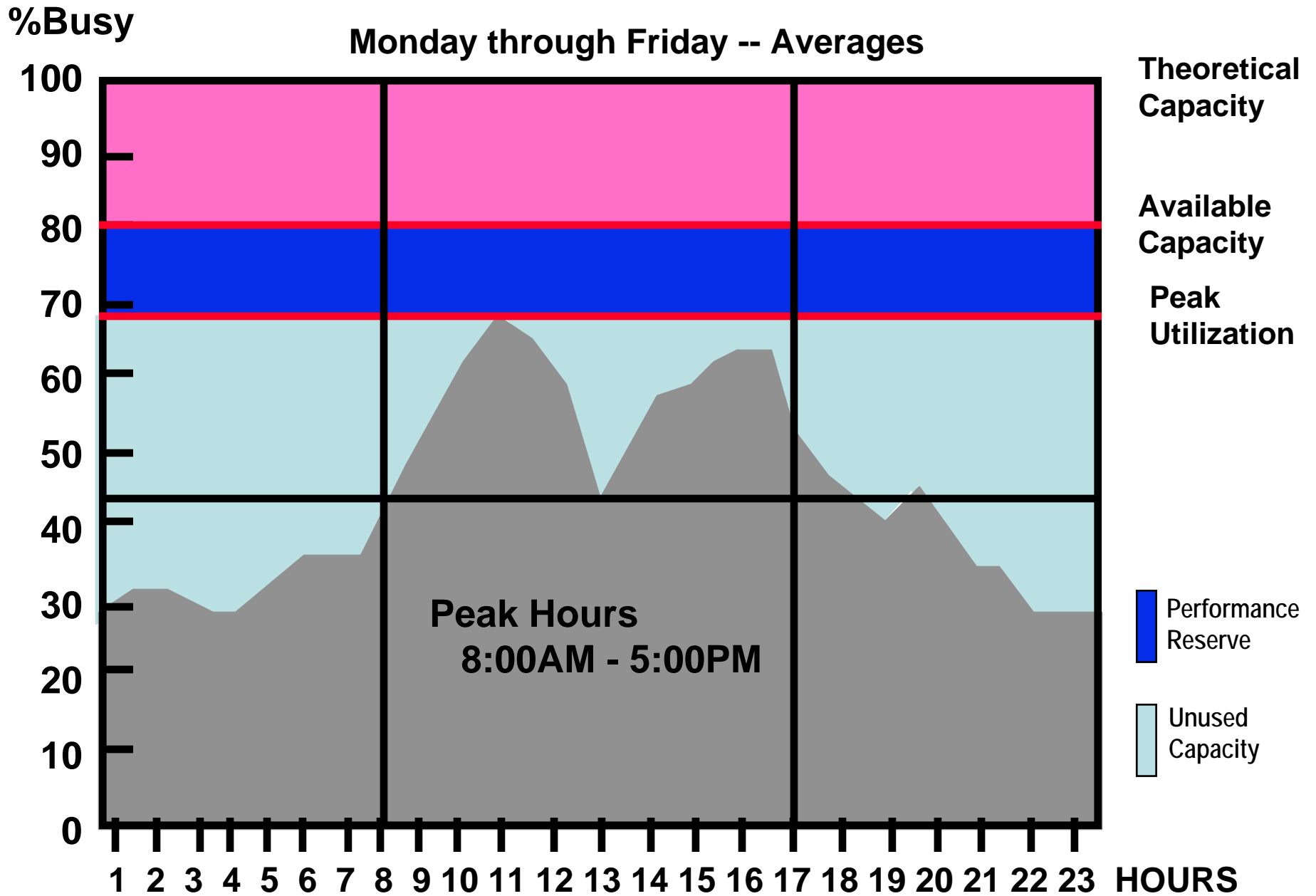
Theoretical Hours [(365-52)*24]	7,500
Operating Sys/Contingency [approx. 20%]	(1,500)
Available Hours	6,000
Peak Utilization [approx. 68%]	(5,000)
<hr/>	
Excess Capacity	1,000
Peak Utilization	5,000
Actual Utilization [Billing Reports]	(3,125)
Unused Capacity	1,875

# *A Sample Calculation of Excess Capacity*

CPU Resource Cost Pool	\$ 3,150,000
Available Hours	6,000
CPU Hourly Rate	\$ 525
Excess Capacity [1,000 * \$ 525]	\$ 525,000
Unused Capacity [1,875 * \$ 525]	\$ 984,375
<b>Total Excess / Unused Capacity</b>	<b>\$ 1,509,375</b>
CPU Resource Cost Pool	\$ 3,150,000
Actual Hours Billable	3,125
CPU Hourly Rate	\$ 1,008

# **Billing for Peak Processing**

# CPU Utilization by Hour

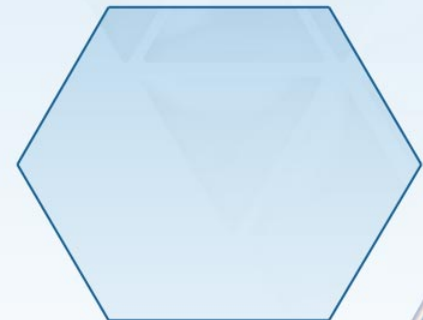


# ***A Sample Calculation for Peak Processing***

<b>Peak Utilization Hours</b>	<b>5,000</b>
<b>Actual Hours Billable</b>	<b>(3,125)</b>
<b>Unused Capacity Hours</b>	<b>1,875</b>
<b>Unused Capacity Cost [1,875 * \$ 525]</b>	<b>\$ 984,375</b>
<b>Peak Shift Hours [9 Hr / Day]</b>	<b>2,800</b>
<b>Differential Hourly Rate</b>	<b>\$ 350</b>
<b>Normal Hourly Rate</b>	<b>\$ 525</b>
<b>Peak Period Hourly Rate</b>	<b>\$ 875</b>

# ***Peak Processing Charging – The Issues***

- This estimates the true cost of this size resource required to do the peak work.
- If the peak work were not required, a smaller, less expensive resource could be purchased.
- If possible, with a large enough rate differential, the peak work load will move.
- If the job can not be moved, then they should pay the differential cost and not be subsidized by the off peak jobs.



# **Charging for Different Levels of Service**

# ***Charging for Different Levels of Service***

## ***Cost Factors to Consider***

- Dedicated resources - private disk storage for on-line applications.
- Changes in resource utilization - higher performance reserve for lower response times in on-line applications.
- Time deadlines - additional resources may be required on a short term rush job.

# Single Versus Multiple Rates

## ***Single Vs. Multiple Rates – Situations***

- More than one IT location
- Resource skill differences  
senior analyst and junior analyst
- Different cost basis  
on-line CPU vs. Batch CPU
- Resources with different price performance

# *Single Versus Multiple Rates*

## **Common Rate**

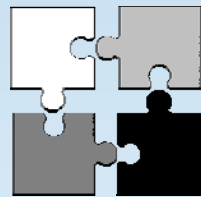
- Image of a single resource
- Customer can't control resource used based on cost
- Cost for job the same for technically different equipment
- Averages capacity and efficiency to all customers

## **Multiple Rates**

- Identify the efficiency of each resource
- Savings for efficient resource passed on to customer
- Identify recovery by each resource
- Motivate customer to use the most efficient resource

# Questions on Other Special Costing Problems?





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